

# **Polar Knowledge Canada**

## **Submission Guidelines for Letters of Intent (LOIs) 2017-2019**

**Deadline: January 23, 2017**



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## **Polar Knowledge Canada –Submission Guidelines for Letters of Intent (LOIs)**

### **1. Introduction**

Polar Knowledge Canada (POLAR) is Canada's lead federal agency to advance knowledge of the Arctic and strengthen Canadian leadership in polar science and technology.

POLAR consists of:

- I. A pan-northern Science and Technology (S&T) Program to conduct and support research and monitoring across Canada's North;
- II. The world-class Canadian High Arctic Research Station (CHARS) that will be operational in 2017 in Cambridge Bay, Nunavut; and,
- III. A knowledge mobilization, engagement and coordination function to support polar research which involves strengthening and coordinating partnerships and collaboration between researchers; helping ensure that research results inform policies and programs; and supporting the next generation of polar researchers and highly qualified personnel.

POLAR is on the cutting edge of Arctic issues and strengthens Canada's position internationally as a leader in polar science and technology. POLAR also promotes the development and distribution of knowledge of other circumpolar regions, including Antarctica. POLAR advances knowledge to improve the economic opportunities, environmental stewardship and quality of life for Northerners and other Canadians.

### **2. Overview**

POLAR has an integrated suite of grants and contributions that supports the Northern Science & Technology and Polar Knowledge Application programs. POLAR is inviting eligible applicants to submit a Letter of Intent (LOI) for projects related to S&T as well as knowledge mobilization and engagement. These projects will seek to develop and leverage knowledge and capacity to help support responsible and informed development in a rapidly changing North.

### **3. Funding and Duration**

POLAR will support projects for the period from April 1, 2017 to March 31, 2019. Given POLAR's pan-northern mandate, the Agency will ensure an appropriate distribution of funding across the Canadian Arctic to support projects focused on knowledge mobilization and engagement, as well as S&T.

Total Funding Available: \$4.5 million with a maximum of \$250,000/project.

Projects must be supported by other sources of funding that contribute to the direct costs of the project. This support can be in the form of financial or in-kind contributions and can come from either a partner involved in the project or from the organization applying for funding. At a



minimum, an in-kind contribution from the organization applying for funding is required, as it reflects its active involvement in the project.

For projects submitted to the Northern Science and Technology Program, these contributions must represent **at least half** the amount requested from POLAR. For projects applying to the Polar Knowledge Application Program, contributions from partners in the form of financial and/or in-kind are required, however, no minimum has been set.

#### 4. Eligible organizations

The following Canadian organizations are eligible to submit an LOI:

- Educational and academic institutions;
- Provincial, territorial, and municipal governments;
- Indigenous organizations;
- Northern communities;
- For-profit organizations; and
- Not-for-profit and non-governmental organizations.

**Note that federal government departments/agencies and international organizations are not eligible for funding, but may participate in the project as a partner.**

#### 5. Key Considerations

The following elements will be considered during the review of the submissions and preference will be given to LOIs that consider the following:

- respectful incorporation of both science and Indigenous Knowledge (IK) in project design and implementation;
- leadership and involvement of Northerners, including communities and Indigenous peoples;
- integration of training and capacity building at the local or community-level; and,
- a coordinated, collaborative and interdisciplinary approach<sup>1</sup>. Multidisciplinary projects must clearly describe the integration of researchers from diverse disciplines and how they support the overall objectives of the project.

Projects that are funded through the Marine Environmental Observation Prediction and Response (MEOPAR) Network-POLAR joint Call for Proposals to support the Year of Polar Prediction will not be considered in this call. Please visit the [MEOPAR website](#) for more information.

#### 6. Geographic Scope, Logistics and CHARS support

Geographic scope: projects focusing on knowledge creation and/or mobilization in locations across the Canadian North<sup>2</sup> will be considered for support; Science and Technology projects can be located in terrestrial, marine and freshwater systems in arctic, sub-arctic and boreal regions.

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<sup>1</sup> Where this is not possible (e.g. clean technology projects), projects must clearly articulate how the deliverables will support knowledge creation and/or mobilization that integrate other disciplines or end-users/stakeholders.



Field logistics: The deadline to submit requests for 2017 field logistics support through Natural Resources Canada, Polar Continental Shelf Program (PCSP) has passed. PCSP will not pay or subsidize logistical costs required for POLAR-funded projects but can help organize the logistics. Therefore, projects that will involve field work as part of the research project submitted through this Competitive Funding Process should include estimated field logistics costs for 2017, 2018, until March 31, 2019.

CHARS Support: Projects that are located around CHARS will have access to new, state-of-the-art facilities and services, depending on availability. This may include accommodations, laboratory space and field support and those applicants invited to submit a full application will be asked to specify the exact nature of their needs related to the use of the facilities and services at CHARS.

For projects that involve testing technologies at CHARS, POLAR staff may help overcome challenges in operating and maintaining a system or component depending on the issue and availability of staff.

## **7. Project Areas and Topics**

The invitation to submit an LOI will help achieve POLAR's mandate by supporting initiatives in the North through two programs: the Polar Knowledge Application Program and the Northern Science and Technology Program. Please refer to the relevant section for specific program information and themes related to this process.

### [Project Areas and Priorities for the Polar Knowledge Application Program](#)

This program aims to promote and further strengthen polar science and technology nationally and internationally and build science capacity through training, outreach, increased knowledge sharing and learning opportunities. The program aims to enhance and build awareness of the polar regions across Canada through fostering collaborations with other organizations to promote Canadian northern science and technology and advance the next generation of researchers and highly qualified personnel.

Applicants applying to the Polar Knowledge Application Program must submit a project that aims to: mobilize new or existing knowledge<sup>3</sup> of the Canadian North to improve economic opportunities, environmental stewardship, and the quality of life of Northerners and other Canadians.

### [Project Areas and Priorities for the Northern Science and Technology Program](#)

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<sup>2</sup> Includes the Yukon, Northwest Territories, and Nunavut, as well as the Nunavik and Nunatsiavut regions.

<sup>3</sup> For the purposes of this document, the Social Sciences and Humanities Research Council (SSHRC) definition will provide guidance. Under this definition, knowledge mobilization is an umbrella term encompassing a wide range of activities relating to the production and use of research results, including knowledge; synthesis; dissemination; transfer; exchange; and co-creation by researchers and knowledge users.



POLAR's Northern Science and Technology Program encompasses four strategic priorities. These include:

1. Baseline information to prepare for northern sustainability
2. Predicting the impacts of changing ice, permafrost, and snow on shipping, infrastructure, and communities
3. Alternative and renewable energy for the North
4. Catalysing improved design, construction and maintenance of northern built infrastructure

Applicants applying to the Northern Science and Technology Program must submit a project that applies to at least **one strategic priority**, and **one theme** within that strategic priority.

### **Strategic Priorities 1 & 2:**

#### **Baseline Information to Prepare for Northern Sustainability**

Better baseline information and decision-support tools are needed to guide sustainable communities and responsible development in the North. This strategic priority is focused on strengthening the information base for improved decision-making. A range of projects will be considered within this priority, including but not limited to, enhanced characterization, knowledge, understanding, modelling and monitoring of Valuable Ecosystem Components (VECs), such as: Cumulative Impacts on Caribou; Snow-Permafrost-Vegetation Interactions; Trophic Food Webs, Food security; Wetlands; Impacts to and recovery of northern ecosystems from natural and human-induced disturbance; Risk and impacts of vector-borne diseases.

#### **Predicting the impacts of changing ice, permafrost and snow on infrastructure, shipping and communities**

The ability to predict the magnitude and rate of climate change and its impacts of northern ecosystems, individual communities, and across the North, will be an important determinant of the resilience of Canadian northern communities, the safety and sustainability of shipping, and the viability of infrastructure in the years to come. Projects under this strategic priority may focus on understanding changing terrestrial cryosphere and/or marine ice conditions (this includes emerging priorities in research and monitoring of permafrost, glaciers, ice shelves, icebergs, sea ice, freshwater ice and snow) and improving predictive capacity related to these variables.

Projects relating to one of the two strategic priorities defined above must also fit within the context of one of the following themes:

#### **Theme 1: Community-driven research and monitoring**

There is often a disconnect between the research and monitoring performed in the Canadian Arctic, and the research and monitoring desired, or required, by northern communities. Under this theme, *community members and community groups based in the North* are invited to submit projects that relate to environmental research and monitoring addressing a need identified by northerners. Projects may include academic partners not based in the North.



### **Theme 2: In-situ research and monitoring**

Applicants are invited to submit projects aimed at the establishment of new, or continuation or re-establishment of historical in-situ research or monitoring initiatives. Under this theme, projects may also focus on data mining, and improving accessibility of existing data for scientific application. Observations collected under this theme must demonstrate direct support to enhanced predictive capacity for shipping, infrastructure development and maintenance, and/or to support community resilience.

### **Theme 3: NASA Arctic-Boreal Vulnerability Experiment (ABoVE)**

POLAR, along with other federal departments/agencies, territorial governments and academic researchers are collaborating with the National Aeronautics and Space Administration (NASA) on coordinating research and monitoring in northwestern Canada as part of the [Arctic-Boreal Vulnerability Experiment](#). The aim is to leverage existing and planned research and monitoring activities (ground-based, airborne and space-based measures) to improve understanding of the resilience or vulnerability of northern ecosystems to a rapidly changing climate. Under this theme, projects must: (1) involve terrestrial or freshwater realms; and, (2) demonstrate how they will connect to and leverage at least one of the ABoVE initiative's [Tier 2 Science Questions and Objectives](#)<sup>4</sup>. Applicants are encouraged to leverage and collaborate with [existing NASA selected ABoVE projects](#).

### **Strategic Priority 3 : Alternative and Renewable Energy**

This strategic priority aims to reduce the dependency on high-cost imported energy, explore feasibility of local energy sources and enhance northern application of alternative technologies.

Projects relating to this strategic priority must fit within one of the themes defined below:

#### **Theme 1: Mobilize Community Energy Solutions**

Applicants under this theme are invited to propose community-scale clean technology projects aimed at displacing diesel fuel or heating oil in the remote, off-grid communities across the North.

#### **Theme 2: “Northernization” and Testing of Clean Energy Technologies**

Under this theme, applicants are invited to submit projects that aim to test or “northernize” clean energy technologies in the late-development stage.

### **Strategic Priority 4: Catalysing improved design, construction and maintenance of northern built infrastructure**

This strategic priority is focused on applying innovative designs, materials and techniques to increase energy efficiency, quality, and reduce life-cycle costs of northern infrastructure.

Projects relating to this strategic priority must fit within one of the themes defined below:

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<sup>4</sup> Tier 2 Science Questions and Objectives are listed in the drop down menu on the link



**Theme 1: Research, monitor, develop and/or deploy innovative northern housing infrastructure**

POLAR is committed to making housing more effective, culturally suitable and sustainable for Northern environments and developing more affordable, lower-maintenance options for housing construction in remote communities. Under this theme, applicants can submit projects that will assist in the long-term monitoring of Northern home designs with emphasis on durability, energy efficiency, sustainability and lower-maintenance requirements. Projects may also focus on determining the optimal methodologies (i.e. prefabrication, in-situ construction) for producing and delivering housing units for remote communities at a specified life-cycle cost.

**Theme 2: Adapt waste processing systems to northern environments**

Many remote northern communities have increasing challenges related to waste management, waste treatment and waste water treatment. Under this theme, applicants can submit projects that will help address waste issues in remote Arctic communities including, but not limited to: categorization of waste streams; waste to energy solutions; treatment of grey and black waste water, including water purification; and, infrastructure for reducing the waste footprint in remote communities.

**8. Requirements of Funding**

It is the responsibility of the applicant to ensure all necessary certifications, permits, licenses and other approvals have been obtained before the project is carried out. Projects funded under the Polar Knowledge Application program may be required to upload their project data to the Polar Data Catalogue. For all Science and Technology data activities, recipients will be required to register metadata records in the Polar Data Catalogue and follow guidelines outlined in the Data Policy.

**9. Timeline**

<b>Important Dates</b>	
<b>Invitation for submission of LOI issued</b>	December 15, 2016
<b>LOI deadline</b>	January 23, 2017
<b>Invitation to Submit a Full Application</b>	February 6, 2017
<b>Deadline for Submission of Full Application</b>	February 24, 2017
<b>Decision on Application</b>	End of March 2017

**10. Procedures**

Applying to POLAR’s Grants and Contributions Programs is a two-step process. The submission of an LOI is the first step. The LOI submission consists of a cover letter (Part A; maximum 2 pages) and an application form (Part B; maximum 5 pages). Applicants who are successful in this process will be invited to submit a full application. Please see the timeline section for relevant deadlines. **No submissions will be accepted after the deadline. Incomplete LOIs will not be reviewed. No exceptions will be made. Please keep your receipt of acknowledgement for your records.**





**PART A: Cover letter (2 pages maximum)**

Each cover letter must be no longer than two pages and must be signed by an authorized representative; in the case of organizations, associations, institutions, signing individuals must be authorized to legally bind the entity they represent.

The cover letter must include the following information:

- Applicant name
- Title of organization
- Street address
- City, Province/Territory, Postal Code
- Email address
- Telephone number
- Mandate/mission of the organization
- Brief description of the project and the program and/or priority to which it applies
- High level explanation as to why the applicant is well-suited to carry out the project

**PART B: Application form (5 pages maximum)**

**Please complete the following questions in a Word (or equivalent program) document**

**A. Please provide an estimated total annual budget for the project. Detailed information on funding from other sources and in-kind contributions is not required at this stage. Projects that span one or two years will be considered. Total funding request not to exceed \$250,000/project.**

	<b>Year 1: April 1, 2017- March 31, 2018</b>	<b>Year 2: April 1, 2018 – March 31, 2019</b>
<b>Total funding request from POLAR</b>		
<b>Other sources of funding (financial and/or in- kind)</b>		

**B. Program and strategic priorities**

Please select one program that your project relates to. For the Northern Science and Technology Program, please select **at least one** strategic priority.

**To which program does your project relate?**

- Polar Knowledge Application
- OR
- Northern Science and Technology



**For Northern Science and Technology, which strategic priority does this project address?**

- Alternative and Renewable Energy
- Baseline information to prepare for northern sustainability
- Predicting the impacts of changing ice, permafrost and snow on shipping, infrastructure and communities
- Catalysing improved design, construction and maintenance of northern built infrastructure

**Please indicate the region in which your project will take place or to which your project will apply. If the project relates directly to a community, please indicate which community in the space provided below.** If your project includes a field work component, provide the names and coordinates (if possible in decimal degrees) of the proposed field site(s).

- Yukon
- Northwest Territories
- Nunavut
- Nunavik
- Nunatsiavut
- Cambridge Bay
- Pan-Northern (Canada only)

If applicable:

Community-specific project:

Field site(s) (in decimal degrees):

**C. Project details and approach**

- a) Project title
- b) Provide a detailed description of the proposed project.
  - i. Objectives: Describe the objectives and activities to be undertaken by the project.
  - ii. Rationale: Describe why this research or activity is important and how the project addresses a priority gap in understanding the North, and/or the needs of Northerners.
  - iii. Approach: describe how this project is applying a coordinated, collaborative and/or interdisciplinary approach, if applicable. Describe the methodology and/or any experimental designs proposed for this project, as appropriate.
  - iv. Results: Describe the results that will be generated by the project, including any benefits to Northern communities.

**D. Impact of the project**

- a) Describe the potential for the creation of new knowledge or the mobilization of existing knowledge in new innovative ways.
- b) Provide a brief description of the key stakeholders/end-users and how they will make use of the knowledge.
- c) Outline the originality of the project (ex. approach, methodology, novel application of technology, location, involvement of communities).
- d) Describe the importance of this project for Canada.



**E. Training, outreach and capacity building**

Briefly describe opportunities for training, outreach and/or capacity building and how the project will contribute to advancing the next generation of researchers and other highly qualified personnel.

**F. Community and partner involvement**

- a) Indicate the partners/end-users involved and/or implicated in this project and describe the nature of their role.
- b) Describe involvement of Indigenous people and/or local participants. If there is no involvement of Indigenous people or local participants, please provide a justification.
- c) If applicable, indicate the northern community or communities which have indicated their support for this project, and describe how they will benefit.
- d) If applicable, describe how the science and Indigenous Knowledge will be integrated in project design and implementation.

**G. Team expertise and experience**

Explain the relevant expertise and experience of your organization and team members related to this project; include that of your partner(s), if applicable. (Note: please do not submit CVs as part of this application).

**11. Evaluation Criteria**

The total number of organizations invited to submit a full application will depend on the total number of proposals received. LOIs will be assessed based on: (1) Alignment with POLAR priorities and programs, (2) Project details and approach, (3) Impact of the project, (4) Training, outreach and capacity building, (5) Community and partner involvement, and (6) Team expertise and experience.

Evaluation criteria grid:

M=Mandatory

P=Preferred

<b>1</b>	<b>Alignment with POLAR’s priorities and programs</b>
M	The project contributes to POLAR’s mandate.
M	The project links strongly and convincingly to the Northern Science and Technology or Polar Knowledge Application Programs.
<b>2</b>	<b>Project details and approach</b>
M	The project is focused on knowledge creation and/or mobilization in either the Yukon, Northwest Territories, Nunavut, Nunavik and Nunatsiavut regions.
M	The questions/objectives are clearly articulated.
M	The approach/methodology is clear and well-linked to project objectives.
M	The project deliverables/outputs are clear and realistic.
M	The budget is appropriate for the scope of the project.
P	The project presents a coordinated, collaborative and/or interdisciplinary approach (if applicable).
<b>3</b>	<b>Impact of the project</b>



M	There is a clear articulation of the potential for the creation of new knowledge and/or the potential to mobilize existing knowledge in an innovative way that will benefit Canadians, in particular Northerners.
M	Partners/end-users are well-defined and there is a clear end-user for the knowledge created/mobilized.
M	The project addresses an issue that is of critical importance to the Canadian North, and that will benefit Canadian society, economy, and/or environment.
<b>4</b>	<b>Training, outreach and capacity building</b>
P	The project will build capacity through training, outreach and employment opportunities.
P	The project presents a plan to advance the next generation of researchers and highly qualified personnel.
<b>5</b>	<b>Community and partner involvement</b>
M	There is a clear explanation of northern community or Indigenous involvement, or a clear and defensible justification for no northern community or Indigenous involvement
P	A northern community supports the proposed work (if applicable).
P	The appropriate partners/end-users are implicated.
P	There is demonstrated benefit to northern communities.
P	Science and Indigenous Knowledge (IK) are incorporated in project design and implementation.
<b>6</b>	<b>Team expertise and experience</b>
M	The project team has the appropriate expertise and experience to complete the proposed work.
P	The project involves an interdisciplinary team appropriate to the project, if applicable.

<b>LOI Application Checklist</b>	
<b>Before submitting the LOI, review the following checklist to ensure the application package is complete:</b>	
<input type="checkbox"/> The LOI is for <b>one project only</b> – additional projects will require a separate application <input type="checkbox"/> The project is requesting support for no more than two years (not to exceed March 31, 2019) <input type="checkbox"/> A <b>cover letter</b> (Part A) has been submitted that conforms to the following requirements: <ul style="list-style-type: none"> <li><input type="checkbox"/> no longer than two (2) pages;</li> <li><input type="checkbox"/> uses Times New Roman font, size 12, single spaced;</li> <li><input type="checkbox"/> signed by an authorized individual; and</li> <li><input type="checkbox"/> in PDF format</li> </ul> <input type="checkbox"/> The <b>application form</b> (Part B) has been submitted and is complete, and does not exceed 5 pages.	

LOIs and any related questions should be submitted to: [grants-contributions@polar.gc.ca](mailto:grants-contributions@polar.gc.ca)